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## REMARKS

Claims 1-3, and 5-30 of the application stand rejected. Applicants respectfully request reconsideration of pending Claims 1-3, and 5-30 in light of the remarks herein.

35 U.S.C. §103

Claims 1-3, 5-7, 9-18, 20-25 and 27-30 stand rejected under 35 U.S.C. §103 as being unpatentable over the combination of U.S. Patent No. 6,059,839 ("Dehnert") in view of "A Simple Mechanism for Improving the Accuracy and Efficiency of Instruction-Level Disambiguation" ("Novak"). Additionally, Claims 8, 19 and 26 are rejected under 35 U.S.C. §103 as being unpatentable over the combination of Dehnert in view of U.S. Patent No. 6,059,839 ("Rountev."). Applicants respectfully traverse the Examiner's rejection.

Applicants respectfully submit that neither Dehnert nor Novak, alone or in combination, teach or suggest a memory disambiguation token, as claimed in independent Claims 1, 16 and 23. In rejecting Applicants' previously presented arguments, the Examiner essentially states that i) the combination of Dehnert and Novak is obvious because "one of ordinary skill in the art would have been motivated to allow the front end of a compiler to communicate higher level memory reference information to the back end in order to allow for increased efficiency and accuracy of optimization of the code" (citing Novak, p. 293, para 5, lines 1 – p. 294, para 1, line 2); ii) Dehnert's IRF "clearly contains data about memory references" (citing Dehnert Col. 5, lines 53-67); and iii) Novak teaches a memory disambiguation token. Applicants strongly disagree with the Examiner's characterization of the references as they pertain to the claimed invention.

First, Applicants respectfully reiterate that there is nothing in either Dehnert or Novak that would render a combination obvious to one of ordinary skill in the art. As set out in M.P.E.P. § 706.02(j), "(t)here must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." The Examiner's conclusory statement that "it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to incorporate the teachings of Novak into the

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system of Dehnert to have each unique memory disambiguation token comprise a data structure including links to data object in which disambiguation information is stored" is based on nothing more than hindsight, i.e., that "one of ordinary skill in the art would want to allow the front end of a compiler to communicate higher level memory reference information to the back-end in order to allow for increased efficiency and accuracy of optimization of the code." Applicants once again submit that the mere fact that a combination *may* provide a benefit does not by default render the combination obvious. Applicants additionally submit that there is nothing in either reference to suggest modifying or combining these references. As such, Applicants respectfully maintain that the combination of these references is improper and requests the Examiner to withdraw the 35 U.S.C. § 103 rejections to Claims 1-3, 5-7, 9-18, 20-25 and 27-30.

With respect to the Examiner's contention that Dehnert's IRF "clearly contains data about memory references" (citing Dehnert Col. 5, lines 53-67) and Dehnert therefore teaches a memory disambiguation token that identifies information particular to the memory reference it is associated with so as to preserve high-level and intermediate-level semantic information, Applicants once again point to the language in Dehnert that clearly disproves this position. The "memory reference" as claimed is NOT the equivalent of the "variables" discussed in Dehnert. As described in Dehnert, the IRF includes various "variables" and data about the variables (see e.g., Dehnert, Col. 6, lines 20-23). The Examiner appears to conclude that the variables in the IRF in Dehnert are similar to the memory references claimed in independent Claims 1, 16 and 23 because Dehnert's IRF "clearly contains data about memory references, as disclosed by col. 5:53-68, 'the IPL analyzes the IRF and analyzes all of the procedures contained therein. The IPL analyzes all of the procedures and all of the data references inside the procedures (that are inside the IRF)'".

Applicants respectfully submit that there is no basis for such a conclusion, and more importantly, that such a conclusion is erroneous. Applicants once again submit that it is well known to those of ordinary skill in the art that variables typically refer to "memory locations". Thus, when Denhert describes an IRF that includes "data gathered about the variables", it is likely referring to gathering data pertaining to memory locations. This interpretation is supported by Dehnert, which describes the data gathered

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in the IRF as including information on the variables such as variable *address taken* information (Dehnert, Col. 6, lines 22-25). The fact that the language in Dehnert talks about the IPL analyzing "all of the procedures and all of the data references inside the procedures" does not automatically render the "data references" analogous to "memory references". As such, Applicants respectfully submit that Dehnert does not teach or suggest a memory disambiguation token that identifies information particular to the memory reference it is associated with so as to preserve high-level and intermediate-level semantic information, as suggested by the Examiner, and respectfully requests the Examiner to withdraw the 35 U.S.C. § 103 rejections to Claims 1-3, 5-7, 9-18, 20-25 and 27-30.

Finally, since the Examiner concedes that Dehnert does not explicitly disclose that the unique disambiguation token comprises a data structure including a plurality of links to data objects in which disambiguation information are stored. Instead, the Examiner suggests that Novak teaches this element and may be combined with Dehnert to teach or suggest all elements of the claimed invention. Applicants strongly disagree. The Examiner submits that Novak teaches a memory disambiguation token on page 293-294 where it describes "allowing the front-end to communicate higher level, memory reference information to the back-end by associating each reference with a portion of hierarchical decomposition of the program's address space." The Examiner also cites a section of Novak that states "the data structure created by the compiler during parsing an source-level analysis-which maintain, for example, defuse and alias information (i.e., disambiguation info)" as teaching that the disambiguation token comprises a data structure including a plurality of links to data objects in which disambiguation information are stored. The Examiner then concludes that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Novak into the system of Dehnert to have the disambiguation token comprise a data structure including links to data objects in which disambiguation information is stored because one of ordinary skill in the art would want to allow the front end of a compiler to communicate higher level memory reference information to the back-end in order to allow for increased efficiency and accuracy of optimization of the code. Applicants respectfully disagree.

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Applicants respectfully submit that regardless of what Novak teaches, the combination of Novak with Dehnert cannot teach or suggest all elements of the claimed invention, as described below. Dehnert does not teach or suggest many of the elements that the Examiner suggests it does. The addition of Novak to Dehnert does not overcome this problem. Applicants therefore respectfully submit that Dehnert and Novak, alone or in combination, do not render the claimed invention unpatentable and request the Examiner to withdraw the 35 U.S.C. § 103 rejections to Claims 1-3, 5-7, 9-18, 20-25 and 27-30.

With respect to Claims 8, 19 and 26, Applicants respectfully submit that these claims are dependent on independent Claims 1, 16 and 23. As a result, since Dehnert does not teach or suggest various elements of the independent claims, the addition of Rountev to teach or suggest "substituting a direct memory reference for an indirect memory reference", as claimed. Applicants' respectfully submit that since Dehnert does not teach or suggest various other elements of the independent claims, and Rountev does not teach or suggest these missing elements, the addition of Rountev to Dehnert is irrelevant. Applicants therefore respectfully request the Examiner to withdraw the 35 U.S.C. § 103 rejections to Claims 8, 19 and 26.

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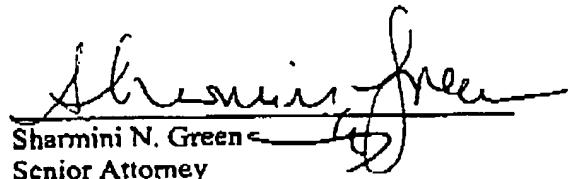
## CONCLUSION

Based on the foregoing, Applicants respectfully submit that the applicable objections and rejections have been overcome and that pending Claims 1-3, and 5-30 are in condition for allowance. Applicants therefore respectfully request an early issuance of a Notice of Allowance in this case. If the Examiner has any questions, the Examiner is invited to contact the undersigned at (714) 669-1261.

If there are any additional charges, please charge Deposit Account No. 50-0221.

Respectfully submitted,

Dated: September 21, 2005

  
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